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AN INTRODUCTION TO THE STUDY OF INTONATION.*

Last summer, in Hammerstein's roof-garden, I heard a man imitating on his banjo scenes of domestic life, among which was a conversation between husband and wife. The man came home late, and after he had, with considerable trouble, found the key-hole and climbed upstairs, she started a good sermon, interrupted only by a few muttered utterances from his side, until he lost his patience and said:



And every one of the audience understood, from the sound of the banjo, what his words had been.

The performer produced these tones by turning the keys and so shortening and lengthening the strings. If you tried the same thing on the piano, you would hardly succeed in making yourself understood, because you can not glide from one tone to the other on the piano. And that is the peculiarity of the intonations, that our voice does not rest on one tone a perceivable time, but glides or slurs in a continual portamento or springs up and down.

What is this intonation, this Sprachmelodie, or Sprachmelos,¹ and how does it differ from a musical melody? The main difference in its character is the aforesaid difference of fixed and gliding tones. While a melody is musical, is bound to harmonies and keys, intonation is a half-musical noise with half-harmonies and disharmonies, quickly changing its keys, and having, instead of chords, arpeggiated chords.²

* A lecture given before the Language and Literature Club of the University of Wisconsin.

¹ Saran in his *Deutsche Verslehre* (München 1907, p. 24 ff.) discriminates between "Sprachmelos" (intonation in prose) and "Sprachmelodie" (intonation in verse).

² cf. Johan Storm, *Englische Philologie*, Leipzig, 1892. I 205 ff.

It is proven by notations that speech really uses different keys for different purposes. But I am not musician enough to be competent on this question, and I can leave it aside for the very simple reason that only a very refined ear, after a close study, can discriminate any shades of that kind in our intonations.³

While, further, in music the words are rather an accompaniment of the melody, and in a certain way subjected to it, speech-melody is an accompaniment of the speechsounds, *accantus*—*accentus*, as it was called in Latin, to translate the Greek term *προσῳδία*—i. e., something that is sung to the words which are the communication of the thoughts. Nevertheless, this *προσῳδία* is no unessential detail. As the quoted instance shows us, intonation alone is expressive. We can observe this every day by listening to a conversation in a distant room, from which we do not hear anything but a vague noise with its pitches. We even use it for communications of simple attitudes of mind toward a given fact, when we are too lazy to articulate. Our 'm' or 'm etc.'⁴ is almost nothing but intonation, and is nevertheless understood by the person addressed.

Written words and phrases are lifeless and meaningless. They reveal in no way the emotional interest of the speaker, unless there be a musical sign represented by our punctuation. However, the emotional interest of the speaker cannot be expressed at all, or at best incompletely, while in speech there is a surprising richness of means, which leaves the scholar who first tackles these questions almost in despair of ever being able to explain and classify them. And, indeed, comparatively little has been done. There are very clever aperçus and observations on the question, which, however, often leave the reader in doubt about the most important details, because they are rendered by insufficient little bars and points, from which nothing can be

³ cf. Storm, l. c., p. 207.

cf. Merkel, *Physiologie der menschlichen Stimme*, Leipzig, 1866. p. 356 ff.

⁴ cf. Eduard Sievers, *Grundzüge der Phonetik*, Leipzig, 1901. § 397.

learned about the starting point and the nature of the intervals.⁵ There are elaborate curves taken with the kymographion in psychological laboratories. But those are too elaborate, the curves too long and large, and the instances, on account of the difficulty of this process, not numerous enough for our purposes.⁶

⁵ Merkel in his "Physiologie der menschlichen Stimme" was one of the first to give notations with musical signs, and his observations are not yet antiquated nor surpassed. Paul Pierson (*Metrique naturelle du langage*, Paris 1884), Storm (l. c. I, 177 ff.), Saran (*Deutsche Verslehre*, München 1907, p. 36 and p. 219; *Studien z. d. Phil.*, Halle 1903, p. 171-239) and others followed. Sievers in his "Grundzüge der Phonetik, Leipzig 1901," deals more with the more phonetic or physiological phenomena; his fundamental theories on "Sprachmelodie" are given only in form of a program (cf. note 18), but we are still waiting for his more extensive publication on the subject.

It is a pity that A. Melville Bell in his various books on elocution and phonetics used the system of bars and points and a very vague description and terminology. His observations were, as it seems, to judge for instance from the XXVI chapter of his "Essays and Postscripts on Elocution" (New York 1886), "A shadow class of students," very interesting and extensive. Other observations of that kind we find in Jespersen, Sweet, Passy, Hempl and others. Jespersen devotes a whole and very valuable chapter to these problems. It is to be regretted, in my opinion, that he did not discriminate between *Hochton* or *Tiefton* in the course of the sentence and rise and fall, if subject to the *Abchlussgesetz*, a circumstance which leads him to overemphasize the influence of the breath on intonation. He says (p. 228): "Beim Beginn eines Satzes, wo die Lungen eben mit Luft gefüllt sind, ist es natürlich, dass auch die Schwingungszahl der Stimmbänder grösser ist als gegen Schluss, wo die in der Lunge gesammelte Luftmasse fast verbraucht ist. Es ist daher ganz natürlich, dass man die letzten Silben eines längeren Satzes mit tieferem Ton ausspricht als die ersten . . ." This is, however, if made a law, not true. We can, on the contrary, very often observe that the highest rise is reached at the end of the sentence very close to the cadence, which occurs in the last syllable, or even in the last vowel or consonant of the last syllable. And for that reason I preferred to begin in my investigations with the end of the communication and to proceed toward the beginning. (Compare the doubtful intonation quoted by Jespersen: nicht ei·nen Pfennig mehr, which could be just as well: nicht einen Pfennig mehr·)

⁶ cf. Edward Wheeler Scripture's works, especially his "Elements of Experimental Phonetics," New York 1902. For more practical purposes the method of experiment with the machine seems to be of very small profit on account of the reasons given above. It is, moreover,

Only a short time ago a way was found which really seems to be apt to give practical results. Daniel Jones published a small volume of intonation curves taken by the aid of a phonograph and tuning forks. The only objection against this process would be that the records are not taken under his supervision with speakers whose peculiarities he had studied and he could describe, and that the speakers speak memorized texts with here and there false accents.

A few attempts are made to simplify and classify the different observations, but they are neither thoroughly done, lacking a method and a system of classification and subclassification, nor do they avoid the difficulty which comes in through inappropriate terms and the attempt to characterize the whole intonation of a phrase at once, instead of taking the different parts of it first. Some of them even get confused by mixing up the intonation with the accent and by the presumption that the result of the stronger stress is a higher pitch.

This is obviously an error. A violinchord does not give a higher pitch because it is pinched stronger; and so it is with the vocal chords. But emotions affect the larynx. Through acceleration of the movement of the heart, the breathing organs as well as the glottis are contracted, and accordingly the tone is pitched higher. On the other hand, relaxation, as a result of the not an advisable practice to use speeches made by a trained person, as those of actors, who are often carried away by habits of a peculiar kind of singing and by the melody of the verse itself. In Jones' notations I noticed among others the wrong intonation on p. 65: "das *ich* dir ausgesucht, where *ich* must not take the accent of emphasis (Wallenstein did not *choose* a horse, but rode his *usual* "Schecke"), and on p. 57 "Lüge" only takes up the preceding verb "lügen," and is therefore to be spoken in a low tone, while "Sternkunst" deserves a higher pitch; line 6 on the same page the word "giebt" is overemphasized. The French conversation he offers is taken for educational purposes and accordingly somewhat conservative and unnatural in its intonation; the rare occurrence of shifted accent to my mind seems to confirm this; for as Viëtor says (*Elemente der Phonetik und Orthoepie des Deutschen, Englischen und Französischen*, Heilbronn 1887): It is doubtful whether: "das Französische überhaupt je anders als im Affekt gesprochen wird." (p. 43.)

diminished interest and emotion, lowers it. We can then state at this point one of the most elementary of psychological laws, that of expectation and fulfilment, to which the multitude of the phenomena of the endintonation can be reduced. By endintonation we mean the intonation of the end of a statement. For this is for our purposes the most important part of the sentence, and since we have in this investigation to deal more with the emotional expressions than with the merely physiological and phonetic sides of speech, we do well to give the main emphasis to this most important factor.

The *falling curve or cadence* means that the communication of the thought is completed and that the speaker does not expect any continuation of it from the person addressed. The cadence is the expression of fulfilment. When I say:

I'll take a walk today
Ich werde heute ausgehen
Je vais me promener aujourd'hui

there is nothing that indicates the expectation of a continuation or an answer. And the case is not changed—as it perhaps might appear to a person unused to observation of speechtones—when the accent on the last word brings in a high pitch before the dropping of the voice in

I'll take a walk today

or

Ich will heute ausgehn

or

Je vais m' promener aujourd'hui

for there is always a little tag of falling curve even as late as in the last part of the *i* in *aujourd'hui* or in a voiced consonant:

Er meinte den Mann
Il croyait que c'était l'homme
He meant the man
Er ist am Ziel

The simplest way to find this out is to take a word of two syllables with the accent on the first. Instead of

Er ist am Ziel

say:

Er ist am Ziele
Er meinte die Männer a. s. o.

The stronger the interest, the emotion of the communication, the *larger* the intervals. While the most usual curve moves in musical fourths and fifths by passing through the second, it is often pitched to the octave and even higher: for instance, if we want to emphasize that he meant the *man*, and not the *woman*. In doubtful cases, or even in general, it is advisable in order to suppress the "Eigenton," the relative pitch of the vowel, to stop all articulation and let the air pass through the nose, thus isolating the intonation from the words to which it belongs, and to trust more to the *motoric* sense than to the *acoustic*. Sounds which are heard only with difficulty can still be felt through the movements of the glottis by a person that is used to observing himself.

So the dropping of the tone at the end of the sentence:

Oui, c'est gentil

Perhaps for the reason of clearly bringing out the cadence, the French so often uses the shifted accent or the simple raising of the voice before the last syllable if this bears the main accent:

Oui, c'est gen•til.⁷

In Jones' notations, where this shifting is very scarce, we have it twice in the cadence:

Alors il vaut mieux les prendre au gui•chet. (p. 46, 5)

Si ce n'est toi, c'est donc ton•frère. (p. 42, 22)

Jesperson quotes:

On nous a servis comme des•rois. (Phon., p. 238)

and Storm, I, 187:

Monsieur Dubois, donnez vous la peine d'en•trer.

The shifting, of course, is very common in cases of emotion and emphasis:

En effet, je n'ai jamais vu rien vu d'aussi gran•diose.

C'est d'un effet mer•veil•leux.

J'l'ai bien vu• mais je n'l'ai pas•en•ten•du.

where "entendu" and "vu" form a contrast and would have about the same high pitch in German and in English:

Ich habe ihn gehört• aber nicht gesehn•

I heard• him but I did not see• him

⁷ To indicate the relative lower or higher pitch I use the lower or higher dots at the *end* of the syllable.

That the mere syntactical structure of the sentence has no influence on the intonation can be easily seen, when we observe questions which are meant as commands or prohibitions. We say, with a constant fall:⁸

Willst du das wohl sein lassen\
Will you stop that nonsense\
Voulez vous me donner ce livre\

But we can even go farther and state that intonations are kept for historical reasons. All questions with an interrogative pronoun take the cadence. They were—according to a supposition which I owe to Mr. Edward Prokosch—originally dependent clauses, having the intonation of such.

Wér hat dir das gesagt\
Qui est-ce qui te l'a dit\
Wann hast du ihn gesehn\
Whén did you see him\
When did you see him\
When did you see him\
When did you see him\

And the same intonation will take place when a question is asked either upon a preceding communication of the fact you are asking for, or upon a preceding answer which you did not expect:

Did he réally say so\
Hat er das wirklich gesagt\
Whén did you see him, not whére\
Mais non, est-ce quil la écrit\
No, but did he wríte it to you\

We are perhaps not far from the explanation by assuming that those questions are also felt as dependent clauses:

I mean: whén did you see him\
No, but did he wríte you, thát is the question\

One could say the preceding question implies a contrast:

Did he wríte it to you\

and we supply:

Or did he only sáy so\

But in disjunctive questions only the second member has the cadence; the first one takes a rising pitch:⁹

⁸ Here as later the cadence is indicated by a line slanting to the right, the end rise by a line slanting to the left.

⁹ cf. Jespersen, *Phon.* p. 332. Hempl: *German Orthography and Phonology*, New York, 1897, p. 172.

Willst du h̄er bleiben / oder nach H̄ause gehn\

Will you stay h̄ere / or will you go h̄ome\

Resterez vous ici / ou rentrerez vous chez nous\

Either these are not to be regarded as real questions, but as statements of two possibilities between which you have to choose, or they are under the laws of contrast pitch, which will be explained later. Hempl calls the second member an anticipated reply. I need not say that questions of surprise, anger, disappointment, even when they consist of an interrogative pronoun or interjection, do not take the rising pitch, as long as an answer is not to be expected:

wie\ wirklich\ est-il possible\ vraiment\ how\ really\

Many phoneticians presume a level pitch having its place between the rising and falling pitch. But I think that we can not concede it a class by itself. It is the expression of indifference, and, as far as I can see, always somewhat falling or somewhat rising:

j̄a ȳes ou! well = may be, it is so

tj̄a = dazu kann ich nichts sagen

w̄ell = I don't know

j̄a ȳes ou!, mais

They often indicate that some remark or objection is suppressed.

We come now to the *rising pitch*, the most important use of which is that in questions not introduced by an interrogative pronoun:

Hast du ihn ges̄ehn /

Did you s̄ee him /

L'avez vous v̄u /

Est-ce que vous l'avez v̄u /

Er hat das get̄an /

Giebst du mir das B̄uch /

But there is one sort of a question introduced by an interrogative pronoun that takes the rising instead of the falling tone, and that is a question asking for repetition of a statement or an answer which the questioner has not understood.

A comes home and B asks him about his commission:

A Well/what did he s̄ay\

Nun / was hat er ges̄agt\

Eh bien, quest-ce quil a d̄it\

B He'd come to-mórrów\
 Er käme mórgen \
 Il allait venir demáin\
 A What did he say /
 Was hat er gesagt /
 Qu'est-ce qu'il a dit /

Or, when B is surprised at the question of A, he will repeat the same question, with a rising pitch:

Was hat er gesagt / Na, dass er kómmen wollte\
 Jespersen calls this "a question raised to the second power."¹⁰

In a surprised question the intervals are usually a little larger:

Really / Vraiment / Wirklich /

To call some one's attention to a fact, to warn him, or to express that we are ready for action, we start with a comparatively high tone and go still farther up:

fertig / ready / allright /
 attention / s'il vous plait /
 Vorsicht /

Belegte Bröckchen /, Pumpernickel / Apfelsinen gefällig /

At the same time there is a very simple acoustic reason which often forces public speakers to raise their voice on the last syllable of the sentence, instead of dropping it; and this can also be noticed when somebody is called by name; however, in this last case the reason *might* be that one is waiting for an answer.

Adolf / Karl / Ernst / (which is mostly changed to Erenst)

One of my first impressions, when I came to this country two years ago, was in the station of the New York Central the man with the megaphone, who, in the word "Springfield," had a musical interval of about a fourth or fifth in the "r," while the difference of the two "i's" was hardly a semitone.

The word "nation" has always been very interesting to me in this respect, for almost every time I have heard it pronounced in a speech, it had the rising instead of the falling pitch; and I suspect that this is a habit introduced by public speakers who want to make it as expressive as possible at the end of a phrase, by raising the last syllable:

of the whole nation /

¹⁰ Phon. p. 231.

On the other hand, it seems perhaps at the first glance surprising that peddlers and street vendors sometimes prefer the cadence. But it is to be remembered that their exclamations are mostly little songs, really sung more than spoken, though not always very musical. Our blueberry sellers sing:

Heilebeern, frische Heilebeern

Hei le beern frische Heilebeern



Others:

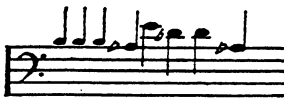
Waldmeister, alle Sorten Tee

Wald-meis-ter, alle Sorten Tee



In Normandy I heard a man peddling watercress and singing:

Cresson de fontaine, deus sous la botte,



Cresson d' deus
fon-taine sous la botte

while in Holstein peddlers announce their fish with a rising pitch, but more with a speaking voice:

Kaft Flundérn



Kaft Flundérn

Still another reason, but in agreement with our statement: rising pitch is the expression of expectation, we have in sentences as

Das must du doch nicht tunV
You must not do\that/

or (Sweet),


Don't forget to post that let-terV
It isn't la\te/ (or better læ>it/)

It serves here to soften the contradiction, the command, the prohibition, as if the speaker expected a defense or apology of the person addressed.

It is not late\
Don't forget to post that letter\
You must not do that\
sound quite different. And while these polite and gentle com-

mands start quite low, we have the same phenomenon, but starting higher and with smaller intervals, when we say "good-bye" or "halloh" to a person. The other one usually replies in a lower tone and with the cadence: That means, the conversation is over.

Good-byeV good-bye\ hal'lohV hal'loh\
tjöh / tjöh\ (for adieu in German)
bonjour madame / bonjour monsieur\



Bonjour madame Bonjour monsieur

The rising pitch is further used at any stop in the middle of the sentence or any communication, in order to express that it is incomplete and the end to follow. You put in your order to your grocer, and say:

A pound of butter / two pounds of sugar / a peck of apples / a dozen of eggs/and a pint of cream.>¹²



A pound of butter and a pint of cream

¹² Note that "pint" takes the high pitch to emphasize the cadence. We have here in English something similar to the French shifted accent.

The same intonation can often be noticed in an emphatical: I·beg·your·par·don.

The grocer will repeat the same words with the same intonation, and ask:

That's all /,

and you will answer:

That's all \

In such enumerations, in English as in German, we mostly use thirds, fourths and fifths, starting from the fundamental and going up the scale.

But while we say:

Schokolade, Kaffee, Tee, Butterbröte



Schokolade

Butterbröte

the French goes up to the fifth first, and falls back to the fourth. If the word, for instance, has four syllables, the first two remain on the starting tone; if three, the first one does; if two, the first one takes the fifth immediately:

du chocolat, du té, du café



du chocolat

du té

du café

But the opposite intonation, falling curve is used if the specification is to be emphasized; for instance, if the great number of objects is to be brought out:



Butterbröte

We saw a terrible disorder: books\chairs\plates\old rags\music\everything lay on the floor in an utter confusion.¹³

The following example may illustrate the rising at the stop in a sentence:

Soon/, however/, the revival took a turn/ at which the more conservative clergy were alarmed.

And the English rule of punctuation before a relative clause, which seems so hard to learn to foreigners, is the easiest thing in the world if formulated as follows:

Set a comma, where you drop your voice, no comma where you raise it.

But, to be sure, they would have to know where to raise and to drop the voice.

The people/ who had been so profoundly stirred by this great awakening/ were the same/ who in 1776 declared themselves independent from the mother country. NO COMMA.

But

He did not come home even then\, which merely showed that he had little regard for his family,

or

At last I was obliged to give a peremptory refusal\, for which we had nothing but sullen looks and short answers the whole day ensuing.

An exception to this intonation is made when, as in the case of the enumeration, the attention of the listener is called to the details of the sentence, to every part of the explanation. So in dramatic description:

Und als sie nun da stand\und weinte\und nach ihrer Mutter rief\, und er ins Zimmer trat\und sie in seine Arme schloss/, da kam ihr zum erstenmal der Gedanke. . . .

And now when she stood there\and wept\and called for her mother\and he entered the room\and took her in his arms/, for the first time the thought came to her. . . .

The general level of every new instance here is a little higher, but with falling curve, until the last one takes the rising pitch to indicate the relation of dependent and independent clause. So also in an argument:

Et quand alors\, par une sorte de progrès\, de processus lent\ il seront arrivé\à ce point\troublé\et obscure/, il ne se reveilleront pas sur terre. . . .

Hempl¹⁴ gives another example and states this falling pitch

¹³ cf. Jespersen, *Phon.* p. 235.

¹⁴ l. c. p. 171.

if it is desired to give the impression that the members of a series were not all thought of in the first framing of a sentence:

Er war furchtbar böse\, er schwur\, er stampfte mit den Füßen\, er schlug sogar nach mir.

This instance, however, is not as good because of the grammatical completeness of every member of the description.

So far we have only spoken of the very end of the sentence. Even in the short communication represented by a single word, as: ja, yes, oui, non, so, indeed, we have complications which have led several scholars to the assumption of compound pitches, as: falling-rising and rising-falling. For the sake of simplicity those terms are advisable and acceptable. But I hardly think that they differ materially from the simple types of rising and falling pitch, because we can observe, even here, that straight rise or straight fall very seldom takes place.¹⁵ Mostly we have curves.

To mark and emphasize the rise, we go down first and let the pitch glide or spring up; to emphasize the fall, we do the opposite.

ja^ ja^v nein^ nein^v yes^ yes^v a. s. o.

If now a word with a strong accent precedes this last fall or rise, the curve will be more pronounced; that is, the accent will take the opposite tone, and the end of the syllable or the following unaccented syllable will glide up and down through a more or less large interval to the third, fourth, fifth or, even the octave, or still higher.

ja^ non, yes^, oui\Roger/

This last example shows: the tone which is the farthest removed from the final tone can be placed back from the end into the interior of the clause:

Don't you like to have it warm in your room

Est-ce que ton père te l'a dit

We'r hat dir das gesa-gt.

However, if the word with the last accent is too far removed from the end, or an accessory accent comes in after it, the first accent takes the high pitch and the curve goes down and reaches

¹⁵ I find a similar opinion in Vietor, *Elemente der Phonetik*, Leipzig 1904^s p. 300.

its lowest pitch in the other accented word or near the end of the communication:¹⁸

Est-ce que votre père ne vous a pas donné ce livre?

Didn't your father at least tell you anything about this matter?

But even this does not occur if the character of the question is that of astonishment, surprise, if the most important word has a contradictory accent, if in our example *the father* is meant in contrast to the mother. And from this use that intonation seems to be originated which I should like to call "Rapportyon" or the "tone of relation."

We find it in all contradictions, establishing a relation between the speaker and the person addressed. We can generally supply the words "as you think," and, if not already expressed, the positive contradictory statement.

My mother did not say so / (as you think, but it was my father)

Ka.rl hat das nicht getan /

Hei'nrich ist gekommen, nicht Frie.drich /

Frie.drich ist nicht gekommen, sondern Hei'nrich \

Note that always the negative member takes the low pitch. The character of this intonation seems to be that of a certain didactic nature, and, as aforesaid, establishing a relation between the speaker and the person addressed. I have not yet been able to observe it in French, where it seems to be lacking.



Ces gens n' sont pas v'nus au spectacle pu or vous, én · ten \ dre.¹⁷

where "vous" does not get the strongly lowered pitch and the intonation falls from "en" to "tendre"

C'e n 'était pas mon père, c'était mon frère

¹⁸ Jespersen says, l. c. p. 231: "Wo die Frage nur einem einzelnen Wort im Satze gilt, erhält dieses Aufton, während das Folgende gut abwärts gehen kann, z.B. 'Ist es An·na, mit der er sich verheiratet hat?' " I would, however, call this intonation quite exceptional and rather have "Anna" take the lowest tone in the sentence. Jespersen's example makes me think of questions in a guessing game.

¹⁷ This example is taken from Storm l. c. I 218.

where the accent is shifted upon the "mon." Thus it seems that in general we have to discriminate between two intonation systems which have already been assumed by Sievers, who stated: "Es gebe in Deutschland zwei landschaftlich getrennte Systeme der Empfindung für die melische Wirkung der Rede, das Niederdeutsche und das Hochdeutsche"; that is to say, a curve which expresses in the North of Germany a certain emotional attitude of the speaker will in the South express a quite different one. However, I cannot help thinking that this—merely preliminary—statement is too general, and that it is rather the emotional condition than the expression of it which changes. For even in the two parts of Germany, in the very dialects, I find intonations which for the German of the South and the German of the North have the same meaning and are the expression of the same emotional attitude. If I may be permitted to give my opinion on the matter, which is based on observations made at random, I would say that the two different intonations correspond to different conditions of mind and are the result of the racial difference and of that of temperament. I find that the observations made by Lessiak in his excellent article on the "Mundart von Pernegg in Kärnten" support this idea. He states the two intonations in his Southern dialect, and says that the first one, with rising pitch on the accented syllables, is used to express emotionless statement, communication of interesting events, command, energetic confident statement, cheerful or angry surprise, astonishment. The second, where the accented syllables have the lower pitch, is used to express indifference, resignation, despair, complaint, pity, well-meant advice, mild reproof, moderate surprise, objective narration, indifferent repetition of a communication of a third person, restrained style with persons of higher station. The tempo, he says, is here less fast, the intervals smaller, the general level lower.

¹⁸ Eduard Sievers: *Ueber Sprachmelodisches in der Deutschen Dichtung*, Leipzig 1901, p. 24. Franz Saran, *Deutsche Verslehre*, München 1907, p. 116.

And he gives an excellent instance of the change of the two intonations:

It's a hard world, one never knows what to do. Help is getting scarce, corn isn't worth anything anymore. What in the world will become of us at the end?

is is wol rix'œe a khraeits af dr welt mæn wās sōn ne'amer wos mæn
šolt o'nhöbm: de.anspotn sint olwaeil weanigr, s trā.d hokhan wert mēr
—io wohin wemr den khō'm ən gotsnom mltr waeil.

That agrees perfectly with our observation. Lessiak says that the sentence with reversed intonation is a kind of parenthesis, a simple intimation of unquestioned facts. I would say: it refers to something that the person addressed knows and which the speaker wants to recall to him; it is didactic.

I myself have observed this intonation in lectures, where the lecturer gives a résumé. For instance:

We can therefore / make the statement /, that this intonation / is used / to sum up / the different details /, pointed out / in the course / of our lecture \

The French example given above:

Et quand alors \, par une sorte de progrès \, de processus lent \, il seront arrivé \ a ce point \ troublé \ et obscure \

I could give, as a résumé with the opposite intonation,

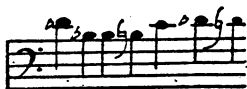
Et quand alors /, par une sorte de progres /, de processus lent /, il seront arrive / a ce point / troublé / et obscure /, il ne s'éveilleront pas sur terre.

A few days ago I made the same observation with Mr. Morgan, who gave in his own words a résumé of the contents of an article which had appeared in the Nation. Hempl's note on the subject (l. c. p. 172 & 173) would, however, rather confirm Sievers' supposition. He says: "It will be observed that in most cases this intonation (falling-rising) is generally associated with an incomplete or hesitated presentation of the case. Its excessive use by many Americans makes upon Germans and Englishmen an impression of weakness and indecision," while "falling-rising" is associated by Germans and Americans with some form of disapproval or contempt. Its lavish use by Englishmen is therefore apt to give offense where not intended.

How general all these intonations are, and whether the peculiarities of the individual demand a more extensive consideration, is still to be investigated and must be shown in detail. Still, I hope to have given the impression that a large part of them is common to all.

The limitations of a three-quarters-of-an-hour lecture compelled me to restrict myself to the question of the direction of the curves and to leave aside as much as possible the complications arising from the nature of the intervals, their starting point, etc.

To give an example: though the direction is the same, the curve in:



I didn't mean to do that

(Look here,) I didn't mean to do that. (I am awfully sorry that I did it and don't see how it could happen)

denotes something different from the curve in:



I didn't mean to do that

(Why? Do you think I'm telling you a story?)

But still less has been done in this line of investigation on the subject, and I would have to give mere observations. If I have contributed to show what stage our knowledge of these matters has reached, and succeeded in pointing out what an enormous field of linguistic investigation is opened, I would be very glad. And this field will not only bear fruit for the study of modern languages—it will at the same time give new insight into psychological facts in regard to the relations of the languages, and, further, in question of authorship, furnish valu-

able criteria, as the new, startling theories of Sievers and Ottmar Rutz have proven.

cf. Eduard Sievers: *Metrische Studien* I, 1-2, Leipzig 1901.

Ottmar Rutz: *Neue Entdeckungen von der menschlichen Stimme*, München 1908.

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